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IMPROVED VARIETIES OF LILAC.

ALTHOUGH improved varieties of the lilac have been for years cultivated in our best nurseries, they are not yet generally known. The old common lilac and its white variety still occupy the greater portion of the field. Probably the reason for this is that these plants multiply freely by suckers, and by this means our neighbor having them is able to supply many others without cost, and in this way they have been spread through nearly every community. The Persian lilac is the next best known, and this has been quite largely planted. But aside from these there is a great number of beautiful varieties of lilac, which, if they could be seen in bloom, would be an unexpected revelation to most people. One of the largest collections of lilacs in this country is at Highland Park in this city, and at the season of bloom is so great an attraction as to draw a large attendance of visitors on every fine day.

At a visit to those grounds on the 25th of May last year, when the plants were in full bloom, some of the more impressive kinds were noted, and will here be referred to, though it must be said that long before the examination was concluded the note-making had ceased, and the writer was quite in doubt about the relative merits of most of the numerous varieties, and was satisfied that only repeated examinations would enable a correct discrimination to be made which should fairly adjust the individual deserts. However, it is believed that the notes have some value, critically, at least with a few kinds which appeared most prominent at the time of examination, and which are now to be mentioned. The writer hopes again to visit the collection this spring and to make further notes for the benefit of the readers of this journal.

One of the most distinct and handsome varieties appeared to be *ROTHMAGENSIS RUBRA*, noticed particularly on account of its dwarfish growth, small leaves, flexible, pendulous shoots, and very large and numerous panicles of deep, rosy-purple flowers. The characteristic form of this shrub is well shown in the illustration on this page, its low growth, loose and pendulous habit and great profusion of bloom; the foliage of the background is that of another shrub.

NOISETTIANA ALBA and *MADAME MOSER* were both noted as particularly handsome white varieties, but later *MARIE LEGRAYE* was seen and compared with the first two mentioned, and after seeing the whole collection a note was made that the last was the best white. This is believed by the writer to be true, although the first named are very fine and superior, yet *Marie Legraye* is probably the best white lilac, at least so far as shown in the large collection of Highland Park.

PRESIDENT GREVY is one of the most noticeable in the collection on account of the large size of its panicles and the peculiar color of the flower, which is a beautiful blue, making it very distinct. The individual flowers are very large and double, and the panicles unusually large both in breadth and length, many of them measuring nearly a foot in

length and nearly half that length across. The flowers are very lasting, a quality enhancing still more the value of this fine variety.

RUBRA INSIGNIS made a fine appearance with its very large panicles of bright reddish purple flowers. Noted as particularly handsome.

LEON SIMON was very noticeable on account of its large, deep rosy purple flowers, which are of a lighter shade on the back, giving a very peculiar and showy effect.

DR. LINDLEY presented very large panicles with flowers of a deep, bright lilac. A very handsome variety.

LUDWIG SPAETH appeared to be an exceedingly beautiful sort, with long trusses of large dark purplish red flowers.

LOUIS VAN HOUTTE is noted as having very large panicles of reddish purple lilac flowers.

COLMARIENSIS has handsome foliage and very large, bluish lilac flowers. This variety appeared to be quite distinct.

JACQUES CALOT was noted as having very large trusses of large rosy lilac flowers.

LILAROSA was a particularly noticeable variety, with large trusses of lilac rosy flowers.

ALPHONSE LAVALLE showed very large panicles of double flowers, of a purplish lilac color.

GLOIRE DE LORRAINE had flowers of a deep rosy lilac, and appeared very beautiful.

Notes of several other varieties were made, but before publishing them it is thought prudent to make another examination, and reserve an expression in regard to them, and others, to a later time. But the descriptions given above, while they are in no way adequate, will convey faintly some ideas of the great beauty of the improved varieties of lilacs.

* *

JAPAN PINK.

A WORD to beginners in flower growing may prove of benefit and show them how to make an inexpensive garden, very beautiful and lasting, and all from a package of seeds of Japan pinks; more than one

package, if space will permit. A cigar box will make a very good seed bed; sow the seed in March or April and the plants will be ready to set out the middle or last of May, blooming in July and continuing until after all other flowers have succumbed to the rigors of the frost-king. The second season finds them more perfect than the first, beginning to bloom at least six weeks earlier than those from spring-sown seeds. Although the plants are called biennials, I have had them flower well the third summer. Some seeds will escape you and ripen, so you will not need to buy the same kind of Japan pinks next season, for there are numerous classes and it will take several years to go through the entire list.

Let us first try the double mixed; if restricted to one class I think these will give the most pleasure, making numberless bouquets of rich and harmonious colors. I wish I could paint some that bloomed for me last season,—one was a dark velvety maroon, edged with violet; another



*Photographed at Highland Park
Rochester, N. Y.*

*LILAC
ROTHMAGENSIS RUBRA*

dark one was a deep purple, edged with snowy white; one of the loveliest was a mahogany, flaked with crimson, with a fringed border of white; one flesh, with wide and narrow stripes of scarlet; a large fluffy white one had a most delicate lilac band near the center. There were all sorts of bright and dark reds, some in solid colors, others veined and mottled. As they differed in color, so they differed in size and shape; some were large and loose, deeply cleft and widely margined; others closely set with regularly laid petals, with only a narrow thread of border. Out of over fifty plants only two were similar.

Two years ago I had a packet of double white dianthus. They were not all pure white, although many of them were; all were light colored, some large, blooming singly on long stems, others small with from six to ten flowers on each stem; some were flushed with pink, and still others semi-double, zoned with scarlet and maroon,—these were especially lovely. The past spring I was favored with a package of single Hedde-wiggi. These differ from the common type of single Japans in having more saucer-shaped flowers, the edges of the petals curving upward; all have dark velvety centers, shading lighter at the edges. One flower-lover pronounced these the loveliest in my garden. In gathering for bouquets these are fine, as there are three or four open flowers on each branch. All of the dianthus family make lasting bouquets, not withering even if the room happens to be very warm.

Just here let me enter a plea for a little annual that is indispensable in bouquet-making, and is especially lovely with pinks. It is a relative, and in this may lie the secret of its adaptability; this is *Gypsophila elegans*. It is a dainty thing, growing very quickly; it is not much by itself, needing other flowers with it, and gives a lacy finish to all flower arrangements.

One word as to sowing the pink seeds: One need not be blessed with the patience of Job to start them; they will germinate in from five to seven days, and then must have light and air. Remember, they are hardy plants and will endure more cold than most seedlings. They must be hardened, not only to the day-air, but also to the night-air, by leaving them out doors a few nights before transplanting.

L. E. L.

PLANNING THE KITCHEN GARDEN.

IF WE are to have a good garden, we should begin to plan for it before planting time. If we have given the subject some study, and have in mind the plan we expect to follow, we shall then be ready to begin work as soon as the ground is in condition to work. If one has a plat of ground lying back from the kitchen, and better, if it slopes away from it, this I have found in my own experience to be the most convenient place for the kitchen garden. When vegetables and fruits are wanted for the table, one needs to go only a few steps from the kitchen door, and the slops from the kitchen can be conveniently carried to the garden and emptied around the plants when they need water. If the garden is near the house, one will be more likely to spend some of his leisure moments in working in it. It may be a question with farmers, or business men whose time is occupied, whether it pays them to grow their own fruits and vegetables; whether it is not more profitable for them to give their whole time to their business and buy their garden truck. From a financial point of view, I think it pays me to have a good garden, even if I have to hire extra help to cultivate it, for my garden saves me a good part of my grocery bill. But few people will buy the fruits and vegetables needed to keep their tables well supplied, and the only way for those in the country to make sure of a good supply, is to raise them. If one has a suitable plat of ground and a little time for working it, it certainly is good economy to plant a garden.

If I had to cultivate the old-fashioned gardens that I have seen, I think that I should be discouraged, but there has been an evolution in gardening, as we can see by comparing these old gardens with the up-to-date gardens, where the labor is reduced to a minimum by labor-saving implements. It was the old plan to plant the garden in little patches or beds, as they were called, with paths around them to walk in while weeding them. For hours one must sit doubled up, sowing seeds or pulling weeds with the fingers. No horse or hand-wheel cultivators were used, and the work was done at the end of a hoe handle. In the modern, and with the best implements, the work can be so planned as to make it pleasant and profitable. In the farm garden, where there is plenty of room, it is best to plant everything in long rows, with a space between them wide enough for horse culture. First pulverize the soil very fine and remove all the obstructions to the use of the garden implements. Then draw a line across one side of the plot, so as to make the first row straight, then you can rapidly sow all the plot with the garden seed drill, and have all the rows perfectly straight. Cultivate roughly between the rows with the horse cultivator, then use the wheel hoe.

As soon as I can work the ground I plant the peas, and I prefer to sow the early, medium, and late peas at the same time. Next I sow lettuce, radish, spinach, and onion seed, and plant a few sets for early onions. When warmer weather comes, I plant the sweet corn, and like the peas, plant the early, medium, and late kinds at the same time. Next, with increasing warmth, will come the tomatoes, cucumbers, melons, squashes, egg plants, etc., not neglecting the parsnips and sal-sify, which can be sown any time in the spring when the ground is in condition to work. The asparagus, rhubarb and horse radish, should be on one side of the garden, or in some place where the permanent beds will not be in the way when plowing. Use wire netting for a support for the peas and lima beans, and be sure to have a plot of limas ready for use when the peas are gone. Save some of the brush when trimming the fruit trees, and place it between the rows of tomato plants. These are better than a trellis for supporting the vines. Celery, cabbages and turnips can be grown as second crops.

If the same plot is used for a fruit garden, I would plant the fruits on one side of it, and not mix them up with the vegetables. If fruit trees are planted, plant them on one side of the garden, where they will not take the

moisture that is needed for the small fruits and vegetables. Next will come the grapes, blackberries, currants, gooseberries, raspberries, and strawberries. We will suppose that the vegetables occupy the other half of the garden, and thus we have a general plan for a kitchen garden.

The question of fertilizers is one that will depend largely on what is the most available. If stable manure is obtainable, I would use it for growing the most of the crops, but for some of the vegetables it should be well rotted before using it, and this means that one must do some planning to have a supply ready for use when wanted. If the supply of stable manure should be insufficient for the garden, I would use it for most of the vegetables, and commercial fertilizers for the fruits.

The seeds should be ordered early, or in good time for the hotbed, if one is made. It will pay you to have the best tools, such as are made by the Planet Jr., Iron Age, and other firms, and to have at hand ready for use, garden rake, spade and spading fork, hoes with narrow and wide blades, marker, roller, line and dibbles. Before you commence to plant the garden, make a diagram of it on paper, and locate the place for each crop, then, with the plan before you, you are ready to go to work.

W. H. JENKINS.

Delaware County, N. Y.



Photographed at Highland Park
Rochester, N. Y.

LILAC
BRANCH OF PRESIDENT GREVY

SPRING BLOOMING PERENNIALS.

THE herbaceous border is never more beautiful than in the spring, when bedding plants cannot yet be set out because of frost, and annuals have not yet come into bloom; again, late in autumn when annuals are past their prime and the poor bedding plants have been nipped or withdrawn, the brightness of the garden depends entirely upon its collection of perennials.

An early perennial, found in both woods and gardens, is the columbine, *Aquilegia Canadensis*, our pretty wild species, flushes dry, rocky hillsides with its jewel-like scarlet and yellow flowers. May they never be "doubled" out of their quaint, classical individuality. The columbines of gardens are not so shade-loving; a large-flowered purple variety is, in our South Atlantic States, especially well adapted for growing in high, dry, sun-scorched soils. The white and the yellow varieties are also exceedingly graceful and pretty. The whole columbine plant,—leaves stems, flowers and seed-vessels,—has striking individuality; a clear-cut airiness and jaunty grace that is both dainty and distinguished.

As children, very early in spring we used to watch, with great interest, the crimson, club-like buds of the peonies pushing themselves above the soil, and this interest did not diminish as their buxom crimson, pink or white flowers expanded. But the peonia of today is a splendid flower that can hold its own anywhere, and needs no words of praise from me.

Buttercups and bloodroot were other flowers that we loved, and were plenty enough to play with. The bloodroot we succeeded in naturalizing in our yard, so that there is still a broad patch of it to remind me of the old playmates.

The dear little single buttercups of the meadows are not shamed by the double, ball-like flowers of the garden. Their golden color is just as bright and their petals quite as silken. With the dandelion they are among the "dear common flowers" that it would be a real grief to miss from beside the way. But I do wish that the double buttercups were as popular with people as the single ones are with nature. Such sunny-faced, hardy, contented little flowers surely deserve to be loved by everybody.

The rosy, cheery flowers of the dicentra always make me wonder why it should have been misnamed "bleeding heart." This, and its shy, white cousin, the "squirrel-corn" of the woods, are among our best and most graceful early spring flowers. I am aching to see the white species improved by rich soil and culture until its sprays shall be as long and gracefully curved as those of the pink variety.

We have been amused to find that *Yucca filamentosa* in catalogues is frequently classed among the summer-blooming perennials. In the Carolinas it is one of our early April flowers and has a fine, statuesque beauty quite inimitable. The great white flower-heads frequently form a shelter for hordes of pugnacious-looking black beetles which we delight to drown in basins of water placed below for the purpose.

Tiarella cordifolia is beautiful twice a year, with thick sprays of foam-like flowers in early spring and again in early winter, when its low clumps of scarlet leaves fleck our otherwise barren, rocky hillsides with warm color. Some of the earlier saxifrages have similar qualities.

The white, painted and purple trilliums are now finding their way into many gardens, and thrive as contentedly in little colonies among shrubby nooks as they did in their native woods. *Trillium grandiflorum*, the great "white wood lily," is easily first of all.

Daphne Cneorum, the exquisite garland flower, blooms in April in the south, forming the prettiest contrast imaginable between its dainty, rosy flowers and stiff, dark, evergreen leaves. I wish that I could find both the daphnes oftener among the gardens of my friends. Sometimes, in sheltered places, the flowers open in March,

Along the banks of woodland streams we find little dwarf *Phlox subulata* opening its flowers this month. What a pretty little plant it is, and how nicely it would fringe a walk or border after crocuses are gone. I can never find the leaves and stems in summer, so think that it must die down after flowering; [that is very accommodating, as it gives the room to other flowers. I like the name of moss pink better for such a dainty little plant.

The veronicas, astilbes and tradescantias must have honorable mention among spring flowering perennials. A year old plant of *Tradescantia Virginica* is not very pretty, but in another year it will have spread into a broad cushiony clump that opens hundreds of beautiful pure violet blue flowers every morning, and then it will be a thing of beauty until the sun grows too hot for its flowers and they close. The white variety I do not so much admire.

The larkspurs, too, I cannot leave among the summer-flowering perennials. Perhaps our early spring weather wakens them sooner than in colder climes; or else their flowering-time is a movable feast of beauty, affected by different soils and climates. With us in the Carolinas they begin blooming in April or early May, and the whole procession of varieties is usually passed by the close of May. One of the prettiest sights I ever saw was a field of white perennial larkspurs all in bloom.

L. GREENLEE.

PORTO RICO.

The Land of Flowers and Fruits.

WHEN the American army landed in Porto Rico in August last they found the island literally a land of flowers and fruits. Trees, bushes, climbers and the grassy mountain sides were all covered with brilliant red, yellow and blue blossoms, while the air was perfumed with the odors therefrom. The rose seems perfectly at home and blooms in the open air throughout the year. On trees and bushes the blossoms most commonly indicated the families Leguminosæ and Malvaceæ. The double flowers of the Compositæ were very rarely seen. Ferns are comparatively rare, though there is one tree-fern in the mountains. There are several palms, those most common being the royal palm, the cocoa-nut palm, the date palm, and the travelers' palm. The royal palm is a beautiful tree growing to a height of about fifty feet. The trunk is

nearly white and spindle-shaped, swelling out in the middle in a very graceful manner. It is of great value to the poor natives; their hogs live on the nuts produced, it being affirmed that one tree will support one pig. The branch which bore the fruit makes a very good broom after the nuts are removed. The leaves of this tree can be used for a hundred different purposes. The natives use the petioles for shingles and clapboards, each being about six feet long and from twelve to eighteen inches wide. He makes out of them baskets, washtubs, coffins, cradles, beds, hammocks, saddles, ropes, boxes; indeed, all that he needs in his simple life.

The cocoanut tree produces the well-known nut, the tree bearing throughout the year, and producing, it is said, from 200 to 400 nuts in a year. Here the natives gather a large portion of the nuts green, when flesh is soft, and each nut contains a large quantity of delicious *aqua de coco* (milk), which is the safest and most refreshing drink on the island. The husk of the nut and the wood of the tree are both valuable. The leaves of the tree are gigantic. I have measured some which were twenty-two feet long by eight wide. They are much used here to decorate the walls of the large rooms in which Americans live. This is done by standing them against pillars and along the walls, the effect being very pleasing; they will remain green and fresh-looking for a month or more. The traveler's palm has this curious feature, that the



Long Spurred Columbine

AQUILEGIA CERULEA

leaves are arranged in two rows at the top of the tree, thus forming a gigantic fan.

Porto Rico is a land of grass and fine cattle. It is said to have the finest grass, and finest cattle in the West Indies. To one accustomed to the grassless areas in our Southern states, the presence of grassy swards, like those of Kentucky, is certainly a remarkable feature. Porto Rico, unlike other tropical countries, has no swamps and no jungles. It has no forests, but the mountains are covered with luxuriant grass to their summits. As might be expected from the foregoing, the island has a healthful climate; no epidemic disease prevails here. The average temperature is 80° summer and winter, with cool, pleasant nights, making sleep always refreshing; one is as safe here from disease as in Boston or New York. There are no snakes, no frogs, no dangerous insects, few birds—none of brilliant plumage, and only one little mammal indigenous to the island—a creature resembling a rabbit. There are more than one hundred kinds of fruit growing wild, and so numerous that in places in the mountains oranges can to-day be purchased for eight American cents per hundred. Of this more in a future letter.

San Juan, P. R.

MAJOR GEORGE G. GROFF, U. S. N.



False Mitrewort

TIARELLA CORDIFOLIA

A SHORT CHAPTER ON THE PASSION FLOWER.

LAST spring having ordered a packet of *Passiflora incarnata*, as I suppose it was, the native passion flower found from Maryland to the Gulf, I sowed some seeds pretty early, which failed to come up. After a while I made another sowing, and this, too, was a failure. I began to think the Passion flower a little difficult, but more seed planted the last days of June, I think, grew readily enough, lack of heat no doubt being the cause of the first two failures. The seeds are large and the seedlings are strong from the first. With heat enough to start them, plants can be had very easily. These stood erect until a foot or more high, but they are vines with plenty of coiling tendrils, so I stuck a bush for them to climb on. The leaves are deeply three-lobed, and in my species, at least, are less graceful than you might suppose from the catalogue pictures. Still the foliage is very good, dark green, smooth and shining. Not expecting flowers the first year, I was surprised to see little flower buds, one from each leaf, in the later summer, the plants being three to four feet high at the time; but only one opened, the others were too late. The flower bud stands on an erect stem, a bladdery capsule of a light green, growing paler as the day of opening draws near, with five erect, slender horns or awns, one from each sepal, a stiff, ungraceful bud

as ever you saw—a perfect disappointment. But the flower! Ah, yes, that is another thing. There is nothing the matter with the flower. The five sepals become horizontal, and five petals alternate with them, making a pure white circle two inches across. Just above this white flower is a corona, horizontal also, and about the same size, composed of a great many long, slender filaments, white, or nearly, at the center of the flower, but blue and bluer until the tips are the brightest violet. Nothing can be more delicately beautiful. The five thick, heavy, curiously curved stamens are bright green, the ivory-like ovary is the size of an apple seed. It is mounted high on a stalk and there are three white styles spreading from it. Altogether it is a splendid flower, worth anyone's while to cultivate. Most of the many species are tropical, and I had a notion that the least hint of frost would use it up. But I was amazed to see frost after frost fall without bending it in the least. Then snow came and bent it to the earth. All the other flowers were dead but it was as good as new. Finally, I put all the plants in the cellar, in the same large box they grew in, cutting off most of the tops, and now, January 27th, while the leaves are withered the stems are green, and I have some hopes of keeping them through. They say it is hardy as far as New York (city, I suppose), but that is no sign that I could winter it in open ground. However, if it grows next summer, I am going to try it. You who can start the seed in early spring would do very well to treat it as an annual. A dozen or more of the species yield edible fruits and my *incarnata* is one of them. The Southerners call the berries Maypops. I do not expect ever to live upon them, and probably they will not grow here.

E. S. GILBERT.

* * *

BALCONY GARDENS.

FOR years I had been dissatisfied with my summer arrangements for potted plants. Under the porches they got neither sun nor rain. In the yard the sun was too hot, or the wind too strong. Suddenly it dawned upon me that my bedroom balcony was just the place for the summer conservatory. The long French window opens upon a balcony in the shape of a half-octagon; it has always been over-run with vines, which clamber up the first story; I cut them all away and left the balcony free. It has a fancy railing around it; against this I had three benches placed, one across the front and one on each side. Pots set on the benches could not be seen from the street, but the plant and flowers showed above the rail.

Against the brick wall, on each side of the window, I put big wooden boxes and planted morning glories and nasturtiums and wired them up the house. The balcony faces east and gets plenty of sun and rain, yet the house shields it from the winds, and the south sun does not burn everything up. I watered the plants with a huge sprinkling pot, and the tin roof dried in a few minutes.

My object was to have a handsome display from the balcony, so in a long, narrow, hardwood box I planted summer blooming begonias; anyone who has cultivated them knows just what a gorgeous show they make.

When fall came the box was easily stowed away in the cellar. Another box held gloxinias which were equally lovely. There was a big double white petunia which grew and bloomed all summer, as did the plumbago and hibiscus. On the inside edge of the wide benches were the plants I was growing for winter,—a primrose, cyclamen, white violet, *Olea fragrans*, fern, jasmine, lilies and tea rose.

A chair or two set on the balcony, and after noon it was shady and cool there, and soon became the pleasantest place about the house. The idea of utilizing the balcony was given me from seeing the flowering balconies in New York city, where ground space is not to be had. I take more pleasure in the balcony garden than in the whole yard. The plants are protected from wind and burning sun, from slugs, and moles, and rampant dogs, and I can step from my room out among them, to enjoy and care for them. Almost everything I grow there can be set away in the cellar for winter, but the few winter favorites have the benefit of the happy conditions.

This year I intend to put long boxes outside the balcony railing upon the ledge, fill them with petunias, nasturtiums, sweet alyssum, and such beauties, to trail down. Anyone who has a balcony as big as a pocket handkerchief ought to utilize it in this manner.

GEORGIANA G. SMITH.

THE DAHLIA OF YESTERDAY, TO-DAY AND TO-MORROW.

MORE than a hundred years ago Baron Humboldt discovered the dahlia, a small, single flower, in Mexico. Could some prophetic vision have revealed to him the dahlia of to-day in its dazzling hues and varied forms, he might, perhaps, have been prouder of that discovery than of all his other scientific achievements. It was sent by him to the Botanical Gardens, Madrid, where it received the name of dahlia in honor of the

maroon so intensely dark that at a distance it looks black, with all the intermediate shades of every color except blue, and combinations of these colors; the light shades tipped, streaked, blotched, spotted, edged or variegated with darker colors, while the dark shades show all the various markings with lighter ones.

In the Large Flowering or Show dahlias are included the old, ball-shaped type, with many new introductions and improvements. Many of these are tall, rank growers, carrying huge blossoms on long stems. Nothing grander can be found in the whole floral kingdom for massing on lawns, forming screens or hedges, or as cut flowers for decorating large halls or rooms. In this class the petals are usually folded or quilled, while some, called the double florets, have a smaller petal pleated inside the larger one. The petals are rounded, pointed, notched or cleft.

The smallest of all the dahlias are the Pompons and Tom Thumbs; the flowers an inch or two inches in diameter, perfectly formed, borne on long, slender stems, embracing all the tints and variegations of the other classes. They are dainty enough to suit the most fastidious taste.

The single dahlia has but one row of eight petals. It is divided into the same classes as the double, and shows in general the same characteristics. It is a flower not only brilliant in effect at a distance and beautiful in bouquets, but it will also repay the closest inspection; then one notices the thick, velvety texture of the petals in some flowers, in others an iridescent sheen plays over the surface, while the shadings, colorings and pencilings are as varied and exquisite as those of a pansy.

An amateur walking through a field containing three or four hundred varieties of dahlias is apt to exclaim at the first plant, "O, I must have one like this!" An exclamation likely to be repeated as many times as there are varieties, but after leaving the field a few of the most beautiful and striking will linger in the memory. Among these of the Cactus section are:

ZULU—The darkest dahlia grown, maroon almost black.

CLIFFORD W. BRUTON—Probably the finest clear yellow Cactus.

NYMPHÆA—So-called from its resemblance in form, color and fragrance to the pink water lily.

HENRY PATRICK—The finest clear white, an abundant bloomer.

WM. AGNEW—Dazzling red. Very large flowers, with long petals.

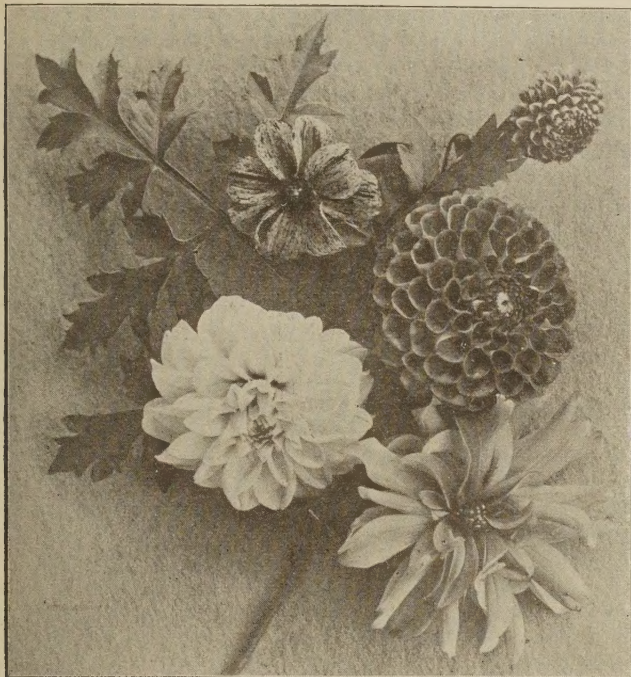
BLANCHE KEITH—Clear yellow with long, twisted petals.

Among the Show dahlias some of the finest are:

FRANK SMITH—Dark maroon, tipped pink, sometimes showing a little white.

A. D. LIVONI (said to be identical with Ethel Vick)—One of the finest pinks of this class.

AMERICAN FLAG—Snow white, striped cherry red.



SINGLE
CACTUS

POMPON
SHOW

TYPES OF THE DAHLIA OF TODAY

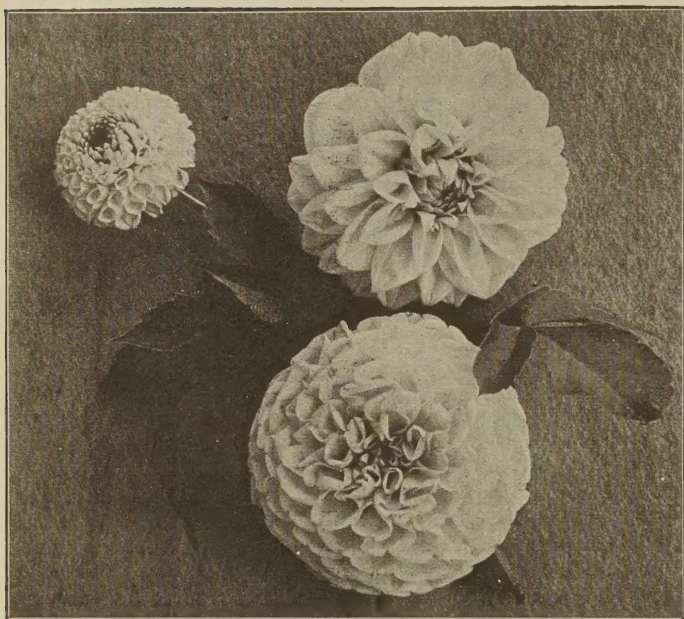
botanist, Professor Andrew Dahl. The same year it was introduced into England, where it was cultivated under glass. For a few years it was lost to cultivation, then reintroduced into England. Cultivation soon developed the double form, and every color except blue. For many years the ideal dahlia of the cultivators was a perfectly double, ball-shaped flower. Those who remember the compact flowers of thirty or forty years ago know how nearly that ideal was realized, and remember the deserved popularity of the dahlia of that day. But people soon tired of the regularity of that type, and for a few years it was neglected. Florists were giving time, labor and thought to the development of the rose, carnation, chrysanthemum, and other popular flowers. At last some far-seeing cultivator recognized the possibilities of the dahlia, and in new, improved and more beautiful shades of color it resumes its sway, and to-day greets us in so many varied and attractive forms that every taste may be suited.

It has been said that the dahlia can never take the place of the chrysanthemum. Very true; neither can the rose take the place of the lily, nor the carnation supplant the violet; there are seasons and places for all of these, and a wide gap between the fading roses of early summer and the blooming chrysanthemums of autumn. It is just this season that the dahlia fills with its radiant hues. Its ease of culture assures an ever-widening popularity, for its requirements are so simple that a "wayfaring" amateur, though unskilled, "cannot err therein." The tubers should be rather deeply planted in thoroughly tilled, richly fertilized soil, one sprout only allowed to grow in a hill, that sprout pinched back to make the plant stocky, then if the surface soil is occasionally stirred there will be no need of watering. The plant will stand any ordinary drouth and bloom abundantly.

Among experts there is a vast difference of opinion in regard to classification. The amateur will first recognize the classes of the Double and Single varieties. Among the double varieties some are so striking that the most superficial observer readily distinguishes the Cactus, Large Flowering or Show, Dwarf and Pompon, which may include the Tom Thumb class. Those who objected to the solid, symmetrical dahlias of yesterday and found fault because of their stiffness, cannot fail to admire the Cactus section, bearing large, perfectly double flowers, with loosely arranged petals. In these the petals are pointed, twisted, spiral, rolled, quilled, cleft, incurved or recurved: the shades ranging from purest white to



VASE OF POMPON DAHLIAS



WHITE DAHLIAS

LITTLE BESSIE, POMPON

HENRY PATRICK, CACTUS
PURITY, SHOW

DANDY—Pink, striped blackish maroon, sometimes solid maroon and occasionally clear pink.

PLUTON—Fine clear yellow, large and perfect form.

PURITY—Snow white.

Some of the best Pompons are :

LITTLE BESSIE—Pure white, ball-shaped flower.

DAYBREAK—Clear pink, sometimes mottled with a darker shade.

LITTLE CACTUS—Light salmon ; of the Cactus type.

SUNSHINE—Intense scarlet.

A few of the Single dahlias are :

AMI BARILLET—Brilliant crimson flowers. Purple foliage.

ELLEN TERRY—Bright pink.

FERN LEAF—Orange scarlet, shaded violet. Fern-like foliage.

HAROLD—Very dark maroon. Petals fringed ; velvety in texture.

MAID OF BUTE—Rose. Of the Cactus type. Petals long and twisted.

These are a few of the dahlias of to-day, and what may we expect to-morrow? Whatever the cultivators wish and the flower-loving public demand. No other flower, not even excepting the tractable chrysanthemum, yields itself so readily to the whims and fancies of the culturist.

We have in the *Nymphæa* a fragrant dahlia ; undoubtedly many others will follow in its train. *Ami Barillet*, with purple foliage, and the fern-leaved varieties, with their finely cut leaves, mark the beginning of improvement in foliage sure to follow.

Blanche Keith, *Delicata* and *Gloriosa* resemble the chrysanthemum more than the old-fashioned dahlia, and give assurance of even more types than the chrysanthemum shows. A race of delicately petaled, ostrich-plume dahlias is more than probable.

It would seem as if nature's choicest pigments had been used in painting the dahlia of the present, yet new and improved varieties are constantly being added, and possibly the coming dahlia may surpass the present in tint and color as well as in form, texture and habit of growth and bloom.

I. McCross.

* * *

THE PIN OAK.

This tree which has been planted in some of our cities and proved to be an excellent street tree, is, as yet, but little known. Mr. S. Mendelson Meehan, writing in the *Florists' Exchange*, recently, says :

This species is particularly distinguishable in the pendulous character of its lower branches. They do not simply droop, but fall at an acute angle from the trunk, like the sour gum. This gives a rather pleasant effect when the trees form an avenue, such as may be seen in the vicinity of Horticultural Hall, Fairmount Park, Philadelphia. Then, too, the growth is conical, rendering pruning seldom necessary. A straight, clean main trunk, is formed, seldom, if ever, diverging. As a sidewalk tree in cities it can scarcely be excelled, withstanding ill conditions remarkably well ; and were it better known by the general public it would not surprise experienced people to see it largely supersede the maple. For a specimen on a lawn it is equally useful, and is there frequently kept low-branched.

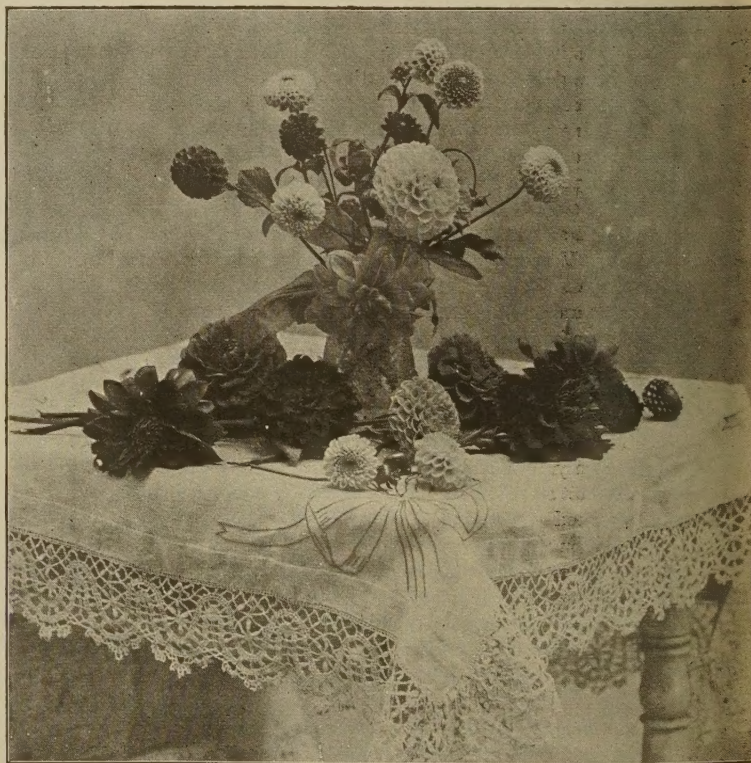
COLD PIT.

A COLD PIT is a structure for the purpose of keeping plants secure from frost during cold weather, or where, even, some kinds may do well in the warm season. It is essentially a cave or cellar with a covering of glazed sash, and called *cold* for the reason that fire heat is not used unless it may be exceptionally, in some places. In the southern part of the country pits of this kind can be used with much advantage for wintering plants ; at the north they are seldom resorted to, though the writer has seen them in this locality sheltering plants that are nearly hardy, and only such plants could be kept in a strictly cold pit here ; but at the south they may be used for many kinds of ornamental plants, even those that are somewhat soft, such as pelargoniums, heliotrope, etc. They are almost ideal places for wintering orange, lemon, camellia and other plants of like nature. North of the latitude of New York strictly cold pits cannot be employed without more care than they are worth, but their value increases greatly in warmer latitudes, and from this source come frequent demands for information about them,—their structure and care. In response to such inquiries the following directions are given :

The location of a pit must be of easy access, or near the house, where it can be reached without particular effort in any kind of weather ; at the same time, it should, if possible, be sheltered from severe winds, and it must be on dry ground, or such as will not be apt to be flooded by heavy rains. But it is not enough that the ground surface shall have drainage ; the pit itself must have a drain leading from it to lower ground, with a good outlet so that water can never accumulate and stand at the bottom. The drain is, therefore, a consideration of the first importance, and unless this can be supplied one need not undertake any other steps towards making a pit. But usually there will be no great difficulty about drainage, for the drain can connect with the cellar drain in the course of a few rods, or perhaps as easily in some other manner.

The location must be open, and not under trees or where trees will shade it, as the plants will need all the light they can have. The pit should face to the south or nearly so, though a little deviation either to the east or west, when circumstances seem to require it, will make no particular difference. By having the slope of the sash to the south more of the sun's heat will be caught, and the light will be better.

The size of a pit may vary with its expected service. The common hotbed sash is 3x6 feet, and the smallest pit advisable is six feet square, being covered with two sash side by side. It may be extended the same width to any desirable length. A proper depth is four feet,—it is sometimes greater, and anything shallower is undesirable, as the temperature cannot be held equable in a shallow pit. A pit is made in the most durable manner by being bricked up all around inside, laying a foot wall ; such pits are not uncommon at the South, where their use is most

POMPON, SHOW, AND CACTUS DAHLIAS
SHOWING RESPECTIVE SIZES

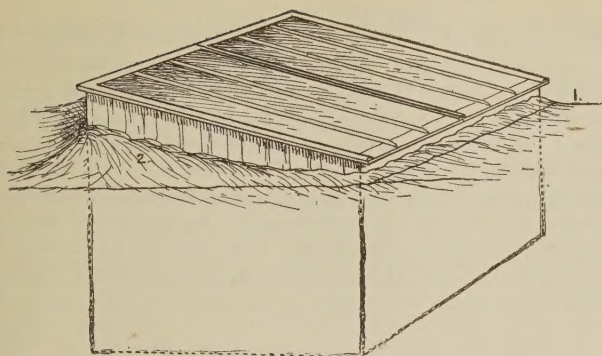


FIG. 1—SIMPLEST FORM OF COLD PIT

general. But if the sides are planked up they will last a number of years, and when necessary the walls can be renewed at no very great expense. A poor quality of lumber, if sound, is as good for the purpose as the best, and costs but little. The top of the pit should have a frame set at the proper angle for the sash. The upper ends of the planking are to be nailed to this frame.

The simplest form of a cold pit is, then, merely an excavation, square or oblong, about four feet in depth from the ground level, with the sides walled up, either with brick or plank, and the walls rising above the surface in the form of a hotbed frame, and the whole covered with hotbed sashes. The lower or front wall of the pit may rise about six inches above the ground level, and the back wall about eighteen inches. The dirt thrown out of the pit can be spread around it, banking up the exposed wall in such a manner as to keep off all surface water.

A pit such as described is shown in the illustration, figure 1. The dark line drawn at the end and the front side, and marked 1, indicates the ground line, while the embankment is marked 2, and the dotted lines indicate the lines of excavation. By sliding a sash up or down, air can be given in fine weather, and by the same means the plants can be reached to give any attention they may need. According to the nature of the winter climate, more or less protection will be needed, such as covering the sash at nights, and during severe storms, with wooden shutters and mats, or old carpets, or both of these kinds of coverings. A

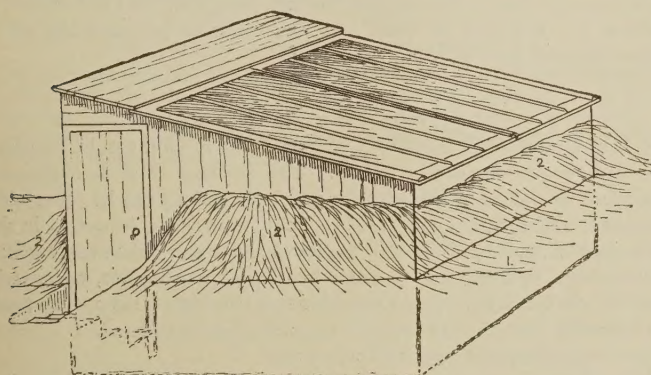


FIG. 2—IMPROVED FORM OF COLD PIT

shelf placed either at the front or the back side, and about a foot below the glass, will make a suitable place for violets in flats or shallow boxes, and other low-growing plants that may require to be close to the glass.

Although, as already stated, this simple form of pit is the most common one, it is evident that it is inconvenient for attending the plants, since they must all be reached from the outside, and in cold storms no access whatever can be had to them, however desirable it may be, for any reasons. At figure 2 is shown an improved form of pit, differing from the first in having the excavation two feet broader to allow of a walk or passage back of the plants; three or four steps from the outside lead to a door to the walk. The roof over the walk may be of boards. The excavation in this case is only two feet in depth, but all the soil taken out is banked up on every side, so as to make the effect the same as if deeper. The door, if desired, may be at the middle of the back side. The advantages of this form of pit over the one first described are obvious, and need not be mentioned.

Figure 3 illustrates another form of pit, the excavation of which is made in the same manner as that of figure 2. As here shown the size is about nine feet square. The roof is a double span, covered with three

sash on each side. A vestibule, or storm, house allows of two doors providing protection when passing in and out. A walk two feet wide lengthwise through the middle of the pit allows three and a half feet of space on each side for the plants, and all can be easily reached. The pitch of the roof in the illustration is somewhat steeper than necessary. In some locations there may be danger of cats and dogs, or other animals running on the roof and breaking glass. Where this may be the case, protection can best be provided by means of a light fence of wire screen around the pit. In regard to the efficiency of cold pits the experience of years has shown that they cannot be entirely depended upon when the outside temperature is extremely low, however well they may be protected by shutters and mats. This is true, in most seasons, for the region of country as far south as Virginia and northern Kentucky, and in reference to the blizzard which passed over the South in February last, it would also apply to a much more southern latitude. Many who

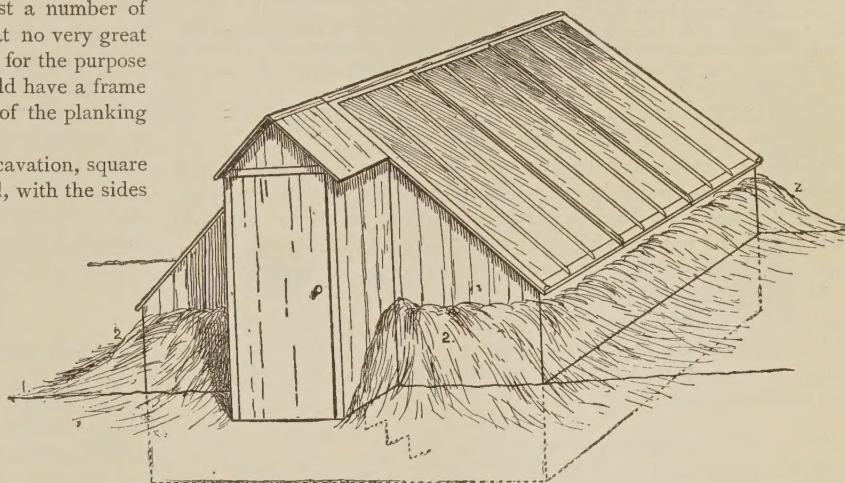


FIG. 3—DOUBLE-ROOFED PIT, WITH STORM HOUSE

have experienced this difficulty with their pits have resorted temporarily to coal oil stoves, with success, to keep up the temperature, and some years since in the earlier volumes of this publication, accounts were related by various parties of their attempts, troubles and final successes, in heating with lamps and oil stoves.

This feature of cold pits which has now been mentioned, if given its due importance, makes more prominent the superiority of those forms having the interior entirely accessible. Of this kind of pit we here present, in figure 4, an illustration of still another form, superior in several points. This pit is connected directly with the cellar of the house, by taking out a section of the wall for a doorway. No explanation of details appears to be necessary, as the illustration tells the whole story. A pit of this kind is accessible at any time; it can be easily heated, if heating is necessary, by various methods; it may even be furnished with a pipe, or pipes, conveying hot water heated by the house furnace, if there is a furnace in the cellar; it is a form of pit that may be employed in the cold regions of the North, as well as in milder climates; the plants can receive daily attention without personal exposure; and a far greater variety of plants can be kept in a pit of this kind. It is a most useful adjunct to the dwelling of any plant lover; next to a window conservatory off the living room, this is the best and most economical place for wintering plants, and for many plants it has advantages over the former. It is a form of plant structure which should have more attention and be more generally employed.

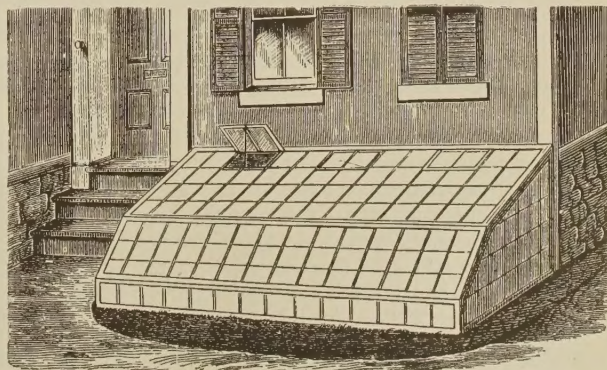


FIG. 4—CELLAR CONSERVATORY OR PIT

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CHARLES W. SEELYE, Editor.

ELIAS A. LONG, Associate.
Formerly conductor of *Popular Gardening*

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All contributions, subscriptions and orders for advertising should be sent to VICK PUBLISHING CO., ROCHESTER, N. Y.

Mignonette Bismarck.

One of the European plant novelties this season is a new variety of Mignonette called Bismarck. It is derived from the excellent and popular variety known as Machet, which it surpasses in several qualities, and is considered to be the highest product now reached in this line of plants. The spikes of flowers have at least twice the strength of those of the Machet variety and are borne on strong stems furnished with leaves of a dark green. The plant is stocky and vigorous. The flowers have a reddish tint and are agreeably fragrant. It is claimed that this variety is superior to all others for pot culture as apartment or window plants, or as cut flowers for bouquets.

* *

The Winter at the South.

The low temperature that visited this country in the early part of February was especially injurious to crops and vegetables of all kinds in the Southern States. Large numbers of trees, shrubs, roses and other garden plants in New Orleans were destroyed. Two days before the freeze the temperature had been 75 degrees in the shade. Nearly every tea rose and many hybrid perpetuals were killed. Crimson Ramblers stood the trial remarkably well, remaining sound, or only temporarily injured, where other kinds were destroyed. Most of the fine palms in the gardens were killed. Camellias badly injured, and many killed. The destruction of the orange groves in Southern Louisiana was very general.

* *

Fruit Prospects.

The injury to the fruit crop the past winter is very wide spread. It is largely confined to the peach crop and peach orchards, but other kinds of fruit are injured to some extent in many localities. In the great peach orchards of Georgia the destruction of buds is total, and the opinion prevails at this time that the trees themselves will prove to be killed. The Delaware and Maryland orchards, it is claimed, will produce little or nothing this season. The buds in the Connecticut orchards are all killed. The large and numerous orchards of Michigan have suffered severely and it will be only an occasional orchard, in an exceptionally favorable location, that will give a partial crop. In some orchards in Western New York, Western Pennsylvania and Ohio there will probably be partial crops. The buds are generally reported killed in Illinois, Indiana, Tennessee, Kentucky and Arkansas. In some sections apples, pears, cherries and plums are injured to some extent, as also some of the small fruits. Another month the amount of damage will be better known, but a fair estimate of the fruit crop of this country cannot be made until June.

* *

Summer Blooming of the Wistaria.

It is not uncommon to see the wistaria produce a second crop of flowers, usually only a few clusters, in the late summer or early autumn. To what extent this remount character of the plant can be encouraged by proper pruning is not known by any examples in the gardens of this country. The *Lyon Horticole* (France) has published a method of pruning the plant to ensure a full crop of flowers in the summer. This method is noticed by *La Semaine Horticole* and given as follows:

WINTER PRUNING.—Shorten the new shoots of the last season, take away any dead wood, and suppress any overfed shoots or gourmands.

SUMMER PRUNING.—Shorten the new shoots which have formed, to about four inches in length. This will cause the plant to re-bloom, that is, to flower during the whole summer. The summer flowering is, perhaps, more pleasing than that of the springtime, for the reason that the clusters which form in summer stand out from the foliage which thus seems to form a natural frame to the graceful flower clusters.

New Grape, Lucile.

A new red grape called Lucile is put on the market this spring. The vine is considered very hardy and healthy and is supposed to be a seedling of Wyoming Red. The appearance of the foliage is said to resemble that of the latter, and the quality of the fruit and season of ripening is the same, but the fruit is larger and is produced more freely. Flesh and flavor said to be very much like Wyoming Red. What a pity! The reason, apparently, for offering this vine to the public is that it is a good cropper and the fruit is good looking. But the fact is, there is a great abundance of good looking poor fruit now sent to market. Do we want any more of it? Should not a new fruit be good in quality as well as in appearance?

* *

How to Buy Commercial Fertilizers. 1

Bulletin No. 148 of the New York Agricultural Experiment Station (Geneva), is entitled, "Report of Analyses of Commercial Fertilizers for the Fall of 1898." There were collected 244 samples, representing 162 different brands, of which 111 were complete fertilizers. The bulletin discusses the work of the entire year, calling attention to the number and different kinds or samples collected, their variation in composition as guaranteed and found, a comparison of the commercial valuation and selling price, and the cost of purchasing plant-food in different forms. Then follow, in detail, analyses of the 162 brands collected in the fall of 1898. Farmers who purchase commercial fertilizers need the information which this bulletin contains. The Station bulletins are sent free to farmers on application.

* *

Hope for Consumptives.

From an account in the *Therapeutic Gazette* for the month of February, it appears that Dr. Karl Von Ruck, following the suggestions of Prof. Koch, but taking a different course, has produced a true solution of tubercle bacilli, without injury to the curative proteids; moreover, it has stood the test of use as a specific remedy in pulmonary tuberculosis. At the Asheville (N. C.) Sanitarium seventy-eight cases were treated with this solution with the result that fifty patients recovered and twenty-six others were improved. Of these cases twenty were in the early stage and all recovered. Of thirty-seven in a more advanced stage, twenty-seven recovered, seven greatly improved and three improved, and none grew worse, gaining on an average nearly thirteen pounds each. In a seriously advanced stage twenty-one cases were treated, of which three recovered, nine were greatly improved, seven improved, and only two grew worse or died. The remedy has also been tried by Dr. Denison of Denver, Dr. Taylor of St. Paul, and Dr. Williams of Asheville, all of whom obtained good results.

* *

Hints For April.

A busy month in the garden. As soon as the ground can be prepared the hardy vegetables can be put in. The sowings of peas, onion and leek seeds should be promptly made, and lettuce seeds can be sown without delay. Radish will come along quickly now in a coldframe; in the open ground, wait until the soil is somewhat warmer before sowing in a well enriched bed, and with a good dressing of wood ashes, which will keep off the black fly. From the middle to the last of the month seeds of all but the very tender kinds of vegetables can be planted.

Sow cabbage, cauliflower and celery seed.

Most kinds of annual flower seeds may be sown at different times during the month.

Plant early potatoes.

The hotbed and the coldframe can now be in constant use, bringing along tender plants for the vegetable and the flower garden.

Prune the roses before the buds start; afterwards dig in a good dressing of manure around each plant.

Make new strawberry plantations. The beds that are now to bear should be well-cultivated, and afterwards the mulch, or covering that has been over the plants during winter should be drawn off them and left in the rows.

Inverted sods, about five inches square, in the hotbed or coldframe, are excellent to sow seeds on, of cucumber or melon, but not much can be done with these plants in the open ground until the weather is warm and settled. But if one wants early cucumbers or melons and can give coldframe room to them, they may be grown much quicker. Four plants of cucumber will completely fill a frame six feet square.

Any pruning needed in the orchard may be done this month, and the base of the trees be examined for borers.

Apple orchards should be sprayed with Bordeaux, while yet dormant, for the scab fungus.

Watch out for insects and take prompt means to destroy them.

Letter Box.

In this department we shall be pleased to answer any questions relating to Flowers, Vegetables and Plants, and to publish the experiences of our readers.

EDITORS.

Insect on Asters and Dahlias.

I had trouble to make asters and dahlias bloom the last two years. As they began to bud they were attacked by a midge that sucks the life out of them. I tried Paris green, insect powder, and other substances, but they all failed. Can you suggest a remedy?
Utica, N. Y.

From the description the insect is a sucking one, in which case its destruction should be brought about by spraying with kerosene emulsion.

Lilies and Roses.

1.—Can anyone tell me to what families the two native Iowa lilies belong? One blooms in July, is blood red, shaped like an amaryllis; the other blooms all summer, is a lilac blue, small, four-petalled flowers, borne in umbels, buds pink; both grow along the tracks in Iowa.

2.—Has the "blush rose" the hardy June blooming rose, any particular name?
G. G. S.

1.—Probably neither of these plants are lilies. The descriptions are insufficient to identify them.

2.—The rose may be the Cinnamon rose, or perhaps, the Hundred-leaved rose, or something else. Roses are too numerous to allow a variety to be described as a "blush rose."

Aphis on Sweet Peas.

I have raised sweet peas for several years. Have wet soil and they are properly planted and fertilized. They do well in June and July, but in August aphis develops on the vines and they die. I keep the vines well mulched and watered. Please tell me in your April number of MAGAZINE what the trouble is and how to remedy it.

Dry, hot air is particularly favorable to the breeding of the aphis, and such has been the air condition for two or three years past in parts of the country where there has been little rain. As this inquiry bears no post-mark, we have no means of knowing where it is from—probably from the middle west, or beyond. Syringing the plants with clear water at night would probably have considerable effect in keeping the insects down, and if this should not be wholly effectual it would be best to try tobacco tea, or a solution of whale-oil soap.

The Mantis or Stagmomantis Insect.

Will you please examine the contents of this letter and let us know through your MAGAZINE what, in your opinion, the objects are? The reason we are anxious about the matter is that they appear to contain eggs of some insect. They are found only upon the branches of young peach trees, and are invariably fastened to the under side of the branch.

S. A. S.

Henderson, Ky.

Having no knowledge of the objects received in the letter, as given above, they were sent to the New York Experiment Station, at Geneva, with a request to examine and give such information as could be, concerning them. To this request a very full response, as given below, has been made by Mr. Victor H. Lowe, entomologist of the Station. The engravings here presented have been copied from Smith's Economic

Entomology, published by J. B. Lippincott Company Philadelphia, a very valuable manual for the practical cultivator.

"The peculiar objects enclosed with Mr. Smith's letter prove to be the egg masses of a species of Mantis, probably *Mantis Carolina*, as this is one of the most common species of the Southern States. The egg masses are of a dull, dirty gray color, measuring, on the average, slightly over an inch in length by half as broad. In shape they have been compared to a boat, turned bottom upward, with a broad flat keel. The insects which hatch from these eggs are very peculiar and interesting. Dr. Lintner describes the adults as follows: 'It is a brownish or yellow long-legged creature, two inches or more in length, broad bodied in the female, but narrow in the male; the many-veined thin wings resemble folded leaves; the front wings have each a brown spot centrally and are borne rather flat over the back; the thorax is slender and almost as long as the body, looking like an elongated neck; the head is small, but much broader than it is long, triangular and carried vertically.' Dr. Lintner also further states: 'When the Mantis is disturbed it raises its long back almost perpendicularly, with its long, stout, heavily-spined fore-legs in position for striking out at any object by which it is threatened.'

"No anxiety need be felt as to danger of injury to the peach or other trees by this insect, for its food consists entirely of living insects. The food of the young consists largely of plant lice, but the adults feed upon all kinds of insects, including the cotton worm of the South, the Rocky Mountain locust and, according to Riley, the elm-leaf beetle. This insect is well-distributed throughout the Southern States, but is only occasionally found as far north as New York. From the above it will be understood that this insect is one which, because of its carnivorous habits, deserves protection as one of the beneficial species."

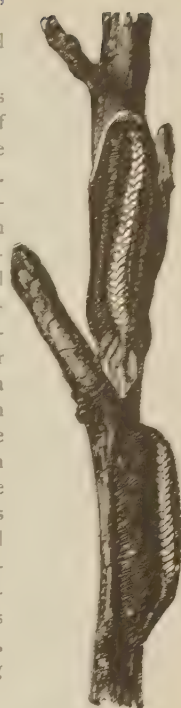
Grafting Apple Trees.

Could you tell me through your paper how to graft apple trees, or where to get information on the subject?

Mrs. G. F. M.

Kings Corners, Sauk County, Wis.

The operation of grafting in the top of fruit trees is illustrated by the engraving here presented. The limb or branch of the tree, if too large to be removed with a knife, is carefully sawn off with a sharp, fine-toothed saw. The stub is then cleft or split with a knife, such as is also here shown. When the split is made, the wedge-shaped end of the knife is pushed or driven in to keep the parts separated while the grafts, which have already been prepared, are inserted, one on each side, if the stub is a large one, but only one when it is less than one inch in diameter; when the grafts are fixed in their places, a blow with the mallet drives out the wedge. After this the wound is bound up with strips of waxed cloth, so as to prevent the entrance of air or water; or instead of using waxed cloth, grafting wax is covered all over the wound, using it warm, so that it may be easily moulded. The scions from which the grafts are prepared should be mature, healthy wood of the previous year's growth. It is customary to take off the scions in the early part of the winter, before any severe weather may have hurt the buds, and they are tied in bundles and kept in moist soil or moist sawdust in the cellar until wanted. When there is a large amount of grafting to be done, it is customary for three men to work together,—one man going in advance and removing the branches, another making the graft, and the third one following and applying the wax or bandages. In this case, the grafter prepares in advance a number of grafts with the proper wedge shape at the base, moistens them, and carries them in a pocket handy to take out as wanted; but in grafting a few trees one man performs all the operations, and in that case makes each graft as wanted. The point to be observed in inserting the graft is that the bark of the graft and stock shall coincide; or, rather, that the line between the bark and the wood of graft should coincide with the same line of the stock. Experience will enable one to make the wedge angle of

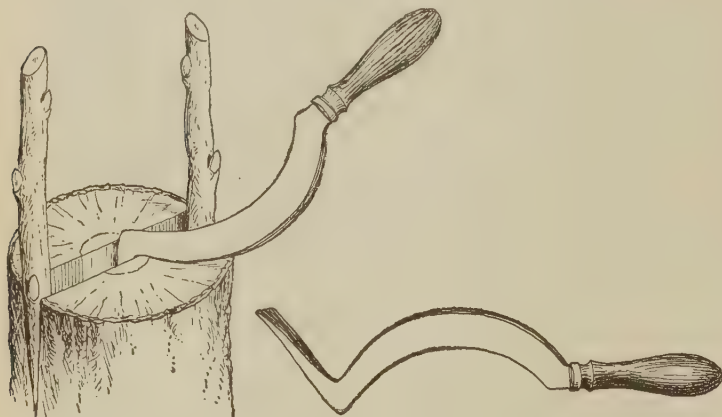


EGG MASS
of *Stagmomantis Carolina*, from
above and side.



STAGMOMANTIS CAROLINA
a—The female. b—The male

the graft suitable to fit the split in the stock. Grafting wax, ready made, can be purchased of some seedsmen or dealers in horticultural materials. It can be made by melting together three parts of rosin, three of beeswax and two of tallow. It may be used in different ways; by spreading while warm, with a brush on cotton cloth, and when cold cutting the cloth into strips about an inch wide and from



STOCK WITH GRAFTS INSERTED

GRAFTING KNIFE

four to six inches in length as may be convenient to use, or old cotton cloth that will tear easily can be used and stripped up into inch strips, and then rolled smoothly together like a roll of tape. Such rolls can then be placed in the hot wax, and after remaining some minutes will be saturated; when cold they will unroll as wanted, and pieces of suitable length can be torn off. New cloth is not so suitable for the purpose, on account of greater difficulty in tearing. If the weather is cold when grafting, it will be necessary to have some means at hand to warm the plasters. Another way is to apply the wax directly to the wound with a brush when it is just warm enough to run; still another way, is to draw the wax out into thin strips, keeping the hands oiled to prevent sticking, and to apply the wax in this manner. This last method is the one which is now most frequently employed. One of the best forms of grafting knives is shown. It is made with a concaved edge in order to draw the bark close to the wood in making the cut or split. Such knives are sometimes made by blacksmiths from old files. Grafting should be done early in spring, and all be completed while the buds are dormant. The Nursery Book, by L. H. Bailey, gives a full account of grafting in different ways.

* *

THE ARNOTTO TREE OR SHRUB.

THIS tree is a native of the West Indies, and from the pulp of its fruit is prepared the Arnatto, or Anatto of commerce, which is used to some extent in dairy operations, to give a rich color to butter and cheese, and for the same purpose is mixed with chocolate. It is also employed in pharmacy, but merely as a coloring substance, which is nearly inert, at least as it is used. During the past winter, a series of able articles, presumably editorial, entitled "Tropical Products," has been published in *The San Juan News*, of San Juan, Porto Rico, and through the kindness of C. M. Spalding, M. D., stationed at the U. S. Hospital, at Bayamon, a file of that publication has been sent to us. From one of the issues is taken the following interesting account of the tree and its cultivation, and the preparation and marketing of its product:

Although Bixa Orellana can rarely, if ever, be found under cultivation in the island, it grows here to perfection, and anyone taking a day's ride in the country cannot travel very far without passing it on the road side. Few know how easy it is to grow it, its yield, its price, or even its use. Ask where one may for information on the least point, the invariable answer is, "Oh! good to color soup." To enlighten the uninitiated I will say it is one of the most valuable dyes known, and is much used for coloring butter and cheese, and as a dye for silks, wool, cotton goods, ivory and bone, feathers and skins.

In former days the Caribs and other Indians of the West Indies, Guiana, and Northern South America painted their faces and marked their bodies with it, and by this means made themselves look very fierce, not to say hideous.

The tree grows no very great height and is somewhat shrubby in appearance, the leaves are heart-shaped and the waxy pulp or testa which envelops the seeds is contained in capsules, which grow at the ends of the branches. These capsules are covered with soft spinules, and when ripe split open and disclose the seeds.

The waxy pulp or testa which envelops the seed is removed by various processes, all very simple, and is the marketable part of Anatto—the dye itself. It is found under a variety of names. The Indians call it Roucou, which is the name now used for it in the French islands. A peculiarity of the dye is that a red or a yellow color can be got from it. The plant is an extremely hardy one and may be said to grow on any soil not actually swampy, and if cultivated on the banks of streams in a gravelly soil, or on rich, flat, well-drained land, it will give large returns. It grows near the sea coast, and also at an elevation of 2,000 or more feet, and it likes a moist temperature, with plenty of rainfall.

The tree can be grown from seed only, which should be selected before they are quite dry, and planted in seed beds or in the actual spot where it is intended to have the trees growing. If planted in a nursery, the young plants will be fit for removal when from four to five months old, and the transplanting should begin at the commencement of the rainy season and on a dull or wet day; it needs very little care to ensure a very small percentage of loss. As the trees are somewhat bushy it is advisable that they should not be too closely planted, and from nine to twelve feet apart may be said to be a good distance. It may be as much as three or even four years before a full crop can be gathered, but some returns may be looked for at the end of eighteen months or two years from time of planting out. The first full crop may be at least five hundredweight to the acre, but the returns will increase for several years. When ripening it is necessary to watch the capsules which split; they should be cut off in bunches, and the seeds taken out and dried. For packing it is preferable to use barrels, which should be lined with paper, and care should be taken not to pack until the seeds are perfectly dry. Should it be decided to ship the dye itself, the preparation will be found extremely easy, and moreover a saving on freight. The fresh seeds are put in a low tub or half barrel and boiling water is poured over them, and the whole should be frequently stirred to remove the testa from the seeds. After several days the dye is passed through a sieve of small mesh and separated from the seed; the liquid should then stand for a week to ferment and allow the dye to settle to the bottom, when the clear water may be carefully drawn off.

The deposit is placed in shallow drying pans, which are placed in shaded places that moisture may evaporate. When of the consistency of putty, the dye may be made up into three pound squares, or rolls, and wrapped in plantain leaves. Lake Anatto is of a dark color externally, but the inside is of a red or yellow color, and it is in this state that it brings the best price on our markets, but unless the planter is prepared to send a really good article it would be better, to send the dry seeds, as the dye can be extracted in the States.

* *

NOTES ON HARDY PLANTS.

THE majority of hardy perennial plants and shrubs should be set out in the spring, although many are strong enough to withstand the winter, if planted in the fall. Good protection, however, should be given if planted then.

The perennial phlox is a great acquisition to our hardy, summer blooming plants, being fine as individual specimens, with their large bunches of finely colored flowers, or as a background to smaller plants. They begin blossoming in July and last until late in the fall.

Hardy herbaceous plants should be cultivated, that is hoed, watered, mulched and trained, just as much as any of the more tender plants. This advice may seem unnecessary to many, yet some flower growers never so much as hoe these plants after they are once set out. To be sure, they do care for themselves, in a great measure, but, at the same time, are very grateful for any care that may be given them.

A hardy perennial that can never be over-praised is the grand new plant Rudbeckia Golden Glow. This is one of the most decorative of our summer blooming plants. It grows to a great height, and nearly all summer is covered with its double, golden-yellow flowers, very much



THE ARNOTTO, OR BIXA ORELLANA.
BRANCH WITH FLOWERS AND FRUITS.



CRAB TREE
PYRUS TORINGA INCISA

like chrysanthemums. These are borne on long, wiry stems, thus making them fine for cutting. The plant delights in a sunny, open situation, and will absorb a great amount of water.

Many people make the mistake of planting that excellent hardy shrub, *Hydrangea paniculata*, in too shady a situation, or too near larger bushes or trees. To realize the best results it should be planted in an open, sunny place, where the soil is of the best quality and rather porous. Rigorous pruning early in the spring, and a mulch of manure in the fall are important factors in its successful cultivation. A small shrub will make a large, handsome bush, in a few years.

If there is a place on the lawn where something could be planted to advantage, but you don't know what to plant, let me say set a *Yucca filamentosa* there. This is a very striking plant, with long, narrow, bayonet-like leaves, and creamy, bell-shaped flowers, borne on a long stem, well above the foliage. The plant is perfectly hardy, and will grow in almost any soil.

BENJ. B. KEECH.

SPRING BUDS.

MOST OF THE TWIGs are brown yet, but the buds will soon burst.

LET US MAKE some plans for our gardens while there is yet time.

FLOWERS SHOULD BE accessories; it is not allowable to spoil a good lawn even with blossoms.

THE MAIN PLANTING of any place should be of trees. Plant flowers in front of bushes, in corners, under windows or beside steps, against the base walls of buildings, along fences or walks.

MOST FLOWERS NEED some sort of a background to help them look their best. One scarlet lily against a background of dark foliage is worth a dozen in the center of a garden.

SOMETIME IN THE WINTER we make a little plot of garden, planning just what we are going to plant in each bed, and finding out just how much the seeds and roots will cost. In spring and summer there will be little time for such careful plans; there will be too much work to do, and the temptation to stay out doors every minute that we can.

THE FLORA OF HAWAII is said to be rich in ferns and crotons. *Bougainvilleas* there are, too, in plenty, but only three varieties of orchids are known on the islands. How queer!

WHAT SPECIAL SORTS of flowers do we bring from Cuba and the neighboring islands, and besides that queer "chenille plant" what from the Philippines? Somebody please enlighten us.

THE GENERAL ENTHUSIASM for carnations is said to be shared by Miss Helen Gould, who keeps in her greenhouse, at Lyndhurst, a great number of varieties. One of the red and white striped beauties is named "Helen Gould," but there is no record either of its having originated at Lyndhurst, or of its having been purchased at a fabulous price.

THE PHOTOGRAPH of a little forced crab tree, *Pyrus toringa incisa*, accompanying, these notes may interest those who remember an account of our experiment of potting hardy shrubs and plants for forcing published in VICKS MAGAZINE last year. The crabs are apt to be scrawny, irregular little trees that would delight a Japanese gardener's heart at this size, so that if picturesqueness is not taken into account, only the most symmetrical specimens should be selected. The picture, of course, can give no idea of the delightful fragrance or the exquisite pink and white effects of the flower. *Deutzia gracilis* is another charming little tree for forcing.

PERHAPS JUST BECAUSE so many people abuse it I feel like saying a good word for the variegated rubber plant. A specimen that I have taken care of for a long time has been very well behaved indeed. The picture taken when it was a young plant shows that the variegation is not very profuse, yet it makes a very handsome, striking plant, and a pretty contrast for the plain green rubber plant beside it. I give them both the same treatment, with the exception that the variegated plant is more favored always as to receiving full light. I do not see why a tall whip-like form should be thought so essential to the beauty of a rubber tree. A grand specimen that I have in mind is twelve or more feet high and has four or five main branches. It grew in the tall, whip-like form until it reached the ceiling of its owner's sitting-room. "People told me that I would spoil it if I pinched the top out," she said, "and that branching rubbers were always considered poor specimens. But there was nothing else to do with it, and now they say it is the finest tree in the village."

IT IS EASY FOR those southern gardeners who have "flower pits" to raise primroses from seed, for provided they are not too damp they usually have just the atmosphere that the Chinese Primrose loves. Seedlings raised in March or April make fine blooming plants for next winter. It is better to raise plants from seed every year, never keeping over an old plant, unless it be an extra fine or double one. The seedlings too, are continually surprising you with new styles in frills, fringes and colors. After the seedlings are up and three-fourths of an inch high, pot them singly into small pots. Then take a flat box three or four inches deep, fill it with sand or ashes and in this plunge the little primrose pots to within half an inch of their depth. This is to protect the roots from sudden changes from moisture to drouth, or vice versa. Place the box in your pit, pretty near the glass, ventilate a little all the time, and shade from sunshine. After they are well rooted they may be uncovered at night and in dull days, but not in wet or stormy weather. Use light rich soil, drain the pots well, repot when necessary, but only in the next size larger pot, and water moderately, but not over the leaves.



VARIEGATED RUBBER TREE
FICUS ELASTICA VARIEGATA



RESIDENCE OF MR. ELI JONES
WAYNE, NEBRASKA

A NEBRASKA HOME.

The very pretty picture of a Nebraska home presented on this page is one among many other evidences that gardening taste is not confined to any one region in this country; North and South, East and West, from the Atlantic to the Pacific, horticultural taste is being exhibited as opportunity admits. The trees in the background and the flower bed are admirably placed, the curve of the walk is a line of beauty, and the plants about the base of the house and the white clematis trained up the veranda and over the porch all show that good judgment which is the foundation of correct taste.

The residence is that of Mr. Eli Jones of Wayne, Nebraska, but the garden manager is the good wife, who for many years has been a reader of this journal. The letter of Mrs. Jones accompanying the photograph mentions, as among her garden treasures, the white clematis, dahlias, cannas, verbenas, hollyhocks, pansies and roses, and refers to other kinds as numerous. Evidently, though unpretentious, this is one of the beautiful homes of America.

* *

GREEN PEAS FOR THE TABLE.

Garden peas succeed best by being sown early and on rich ground. We hear about successive planting for carrying the plant along, but this method has always proven unsatisfactory with me. I find it the better way to get a succession by planting the later sorts at the time of sowing the early varieties. After many trials of the very early hard sorts I have discarded the whole lot and settled down upon the American Wonder as the most satisfactory pea for a first crop, with Nott's Excelsior a close second, in point of earliness, and if anything superior in bearing.

The Wonder, to succeed best, needs a very rich soil, brought to such condition by the application of well-rotted manure, or by a generous application of common super-phosphate, spread broadcast over the plot and well raked in. With such treatment the Wonder will afford a very fair second picking, while Nott's Excelsior will give two good pickings before the vines dry up.

THE FAMILY COZY-CORNER

A RIGHT SELECTION.

My neighbor found me looking over the beautiful Golden Wedding edition, and putting down, from here and there, the names of the plants my soul was in deep yearning to send for.

"Isn't it lovely!" said she. I keep mine locked in the parlor table drawer, so that the children will not handle it, as they are crazy to do."

"That's the last place Vicks Sons want you to put it. Have it where all the family can look at, and encourage them to select what they would like to send for.

"But floral catalogues are like fairy stories,—too good to be true," said she. "Didn't I, last year, select some choice roses and plants, only to have every one of them die, as the good and the beautiful are apt to do."

"I must give the advice a good old florist gave me," said I. "Roost lower!" Don't attempt to grow these dainty things with little knowledge of their particular wants and no good place to grow them. But there are plants in this very catalogue that will do well in our partly shaded city yards, and delight our hearts and not drain our purses, either."

"What are you going to send for?" said she.

"I always consider my sitting room windows," said I, "and send for my fall and winter plants in the spring. I am sick of geraniums on my shelves, for you can see them up and down the whole block in a more or less dilapidated condition, and they are not good house plants anyway. So my first choice will be a dozen tuberous begonias; they are not as well known for window plants as they ought to be. The foliage is pretty and will make an ornamental bed all summer. Of course, I pull off the buds until August; then I pot them, setting in a cool room in September. They soon show their exquisitely tinted flowers, and they bloom in the front windows until after Thanksgiving. When the leaves turn yellow I shake the dust from the tubers, put them in a box and in a frost-proof place, to be brought out again next year. My windows are partly shaded and I must select accordingly; a rubber tree, and pteris will do very well. I always like to try one new thing; this spring it will be a Japan cedar; it will go in my pretty, large vase, and my Golden Wedding edition says it is beautiful for the center of the dining table, and that is where the children will enjoy it." A. L.

* *

L. F. ABBOTT.

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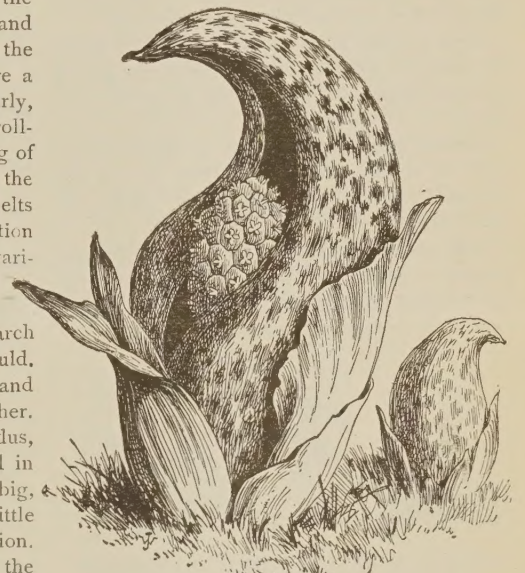
IT IS not easy to determine the earliest and latest birds which are to be found with us; but it is easy to satisfy ourselves as to the earliest and latest blossoming of our trees and plants, for we can find them growing in the same situations year after year. There are a dozen spring flowers which appear quite early, and these are mostly known to woodland strollers, but few are familiar with the blossoming of the very earliest. If one will search at the edge of moist woods as soon as the snow melts away in March, a peculiar form of vegetation may be found. It is a green and purplish variegated covering for a flower. When fully developed it may rise as much as six inches above the cold, moist earth, but early in March it is barely seen coming through the soft mould. This envelope surrounds a stem of buds, and protects the flowers from the severe weather. It is the skunk cabbage, *Symplocarpus foetidus*, a disagreeable smelling plant, known to all in the summer time from its rank, ill-smelling, big, green leaves, which have the scent of that little four-legged animal of perfumed reputation. The spathe or covering slowly opens and the flowers emerge in late March or April, and the fruits, borne in a mass on the spadix, remain until late in the fall. Thus we see that the flowers of one of the most maligned and scorned of our plants are most admirably

protected from the hard times of early spring. The seeds continue to hang even after the stalk has toppled over and long after the graceful golden-rod and purple aster have drooped; and then in the same neighborhood, but a little above and on dryer ground, the witch hazel, *Hamamelis Virginiana*, blossoms. This tall shrub is the last blossoming species at the north and the inconspicuous yellowish flowers are found after the middle of October. The flowers grow on the same twigs with the last year's fruit, which is persistent, and presents an odd appearance in contrast.

The two species, the skunk cabbage and witch hazel, are the first and the last species to blossom, and their periods of efflorescence are separated quite six and a half months. The first appears long before the snows have ceased to mantle the hillsides, and the latter does not blossom until the frosts of autumn have tinged the forest foliage with the beautiful tints which precede the fall of the leaves.

MORRIS GIBBS.

Michigan.



SYMPLOCARPUS FOETIDUS
SKUNK CABBAGE
Reduced in size

THE SEED FLAT.

An excellent box in which the seeds for early flowers can be sown is about eighteen inches long, fifteen inches wide, and three and one-half inches deep. This box can be placed in the window beside the cutting box. A good soil for the seed box is made of three-fourths soddy loam and one-fourth sand. This mixture gives a soil that drains well and does not run together after it has been watered a few times.

In this box can be sown Pansy, Verbena, Petunia, Snapdragon, Sweet Alyssum, Salvia splendens, or seeds of any other similar plants that will stand transplanting and are desired for early blooming. Enough plants can be grown in a box of this size to supply a good-sized flower garden.

THE CALLA LILY.

When the Calla lily begins to bloom, if the pots are placed into shallow pans of water and left there the blooms will be found to last much longer and remain more plump and fresh than where water is simply applied to the surface of the soil.

W. H. M.

Kansas Experiment Station.



Observe Arbor day.

Nature surface manures.

Peas grow at 45 degrees.

April for main celery sowing.

Happy is the owner of a fine garden.

Hotbeds often are damaged by bad airing.

Really, Sweet Williams, so easily grown, should be in every garden.

The very best summer care of pot callas is to plant them out. Lift in the fall.

Have you ever used liquid manure on your plants? They respond quickly thereto.

A safe rule to guide in the choice of fruits: Plant such as do well with your neighbors.

It is too bad to be without the sweet herbs for flavoring, when an abundance can be grown by timely seeding. The sooner sown now the better.

Heavy pruning is usually at the cost of the tree. I never cut any wood from an old tree except branches that are broken or dead.—*An Orchardist.*

Did you fail to sow California Poppy last August? If so, now will do almost as well. The present varieties are a great improvement over those of some years ago.



LILIAM AURATUM PLANTED BETWEEN SHRUBS

Paris green should promptly be brought into use if fleas attack cabbage and allied plants. Mix with fifty times as much flour or land plaster, and dust upon the plants when moist.

Preparatory to Arbor day, we suggest that children be asked to write out a list of all the good qualities of trees, and if they can their bad qualities. The exercise will make tree friends.

A good garden is a connecting link with Paradise. It confers good appetites, good food and good stomachs. If there is another thing thing in or out of earth, or sea, that contributes so much to mortal happiness as a fine garden, I do not know what it is.—*C. C. S.*

The branching larkspurs have the advantage of blooming early and flowering a longer time than other varieties, provided a little care be taken to cut off the flower stems, as they have shed their blossoms. As this is merely a matter of ridding the plants of shoots, instead of individual flowers one by one, to save seed forming, the task is not difficult. The plants are well-suited to massing, as the distinct colors can be kept separate with fine effect. Few flowers are better suited to grow in dry spots, such as hill-sides or among roses. For the best results, there should be a space of a foot between the individual plants.

"Thoroughbred stock." The nurserymen are beginning to talk about thoroughbred plants and trees to win customers. It has reference to stock selected for propagation, that is especially marked by health and vigor. This is a principle—the principle of selection—of which we are bound to hear more and more as the years go on, for it receives recognition from our best horticulturists. Would you, for your own satisfaction, see what there may be in it? Make a simple test as follows: Set twenty-five strawberry plants in one spot, the best specimens your patch affords, and in another place the same number that show leaf-spot or other weakness. You need not extend the trial beyond one or two seasons to be convinced of the value of selection.

Killing noxious growths. You can kill any undesirable plant, vine, or weed, by persistent cutting away of the young growth. Even Canada thistles and poison ivy, two hated pests of great tenacity of life, can be destroyed in this way. A little experience that the writer once had with Canada thistles, leads him to think they they are more easily killed than is generally supposed. In converting what had previously been a cultivated field into lawn one spot contained a liberal sprinkling of these thistles. It was suggested by a neighbor that they would spoil the lawn completely. So far from this being the case, they never gave a particle of trouble, and by a year all had died. In this case the simple mowing of the lawn once a week, to within half an inch of the surface, did the business. Young thistle shoots are very succulent, and the revolving knives easily took care of them. The writer has in mind another case case of destroying poison ivy in a home grove. In the spring he allowed the vine to come out in full leaf, when it was cut to the ground. Every time later that it showed a sprout, this was cut to the ground when it soon died out. Leaves are comparable to lungs; not even a weed can long endure without them.

Growing Lilium auratum. One hardly finds a flower garden anywhere in which clumps of certain kinds of lilies are not grown to a good

Virginia Homes

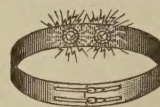
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Established in 1876 and one of the best **FAMILY MAGAZINES** in the English language, has recently been removed to Boston, the literary centre of America, where it will hereafter be published greatly improved in every respect. In order to attract attention at once, we have devised this contest. Below are given the names of **EIGHT POPULAR FLOWERS**, the letters of each being changed from their regular order. CAN YOU NAME THE FLOWERS? HERE THEY ARE:

1 Knips.
2 Raste.

3 Pppoy.
4 Ysnap.

5 Goldmari.
6 Ginnorn Goryl.

7 Sepa Etwes.
8 Uns Wolfer.

EVERYBODY IS GUARANTEED A PRIZE
Who succeeds in naming Four or more Flowers correctly.

REMEMBER the contestant naming the Entire List of Eight Flowers correctly will receive **\$250.00**

The contestant sending nearest the full correct list will receive \$50; the next nearest, \$25; the next nearest, \$10. All others who name correctly at least four flowers **WILL RECEIVE A HANDSOME PRIZE**. If two or more tie for any of the larger prizes, the prize or its equivalent in cash will be **EQUALLY DIVIDED**. There is only one condition, the same to all, of which you will be notified by mail, if successful. **DO NOT SEND MONEY WITH YOUR ANSWER.**

HOW THE AWARDS ARE TO BE MADE.

As soon as possible after your answer can be reached after its receipt by us, it will be given in charge of the Awarders for examination as to its correctness. Then you will receive direct from the Awarders their report in a **Sealed Envelope**. Could Anything be Fairer? Send in your list at once, together with a 2-cent stamp to pay postage on Awarders' report, and win one of these **Fine Prizes**. Contest closes July 4. Write your name and full address very carefully.

THE WOMANS HOME JOURNAL,
Room 25, Sturtevant Bldg., Boston, Mass.

NASTURTIIUMS FOR A BORDER.

Either the climbing *Tropæolum majus* or the dwarfer *Tropæolum lobbianum* make a beautiful border. The use of these plants for a border was first made known to me by seeing a bed of zinnias bordered by them. The green of the nasturtiums, with the bright blossoms peeping out between, blend beautifully with the rich color of the zinnias, making a bed whose beauty I shall long remember.

For several seasons I have used them to border a bed of geraniums, with cannas for the center, with equally successful results. The silvery, apple-green color of the leaves contrasts finely with the darker green of the geraniums. The use of the plants in this manner nearly doubles the blooming capacity of the bed, no small thing to flower-lovers with small gardens and unlimited desires.

I have never had nasturtiums do better or bloom more freely than in a border. Every morning I would pick great bunches of the flowers, as I did not wish them to seed early. They bloomed until late in October, with some protection on extra cold nights, and some of the largest flowers came in September and October. As a border for a bed of shrubs or hardy plants they are very fine.

Some might prefer *Tropæolum lobbianum* for a border, as it grows more symmetrical, but in using *T. majus* the runners can be kept in place with a little pruning and care in training. Both species have a wide range of color. The border may be all of one color, or mixed, if preferred. The plants can be started in boxes about six weeks before bedding out time, and carefully transplanted, or the seed can be sown directly in the border when the weather is suitable. As the plants are very rapid growers many would prefer this way, although the bloom would be later.

CHAS. S. FISK.

* * *

MONDAY morning, February 28th, I planted some of the seed I received from you, and this A. M., March 3d, two pansies and one centaurea bade me good morning.

MRS. BANKS.

Binghamton.

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V. I. M.

Vicks Illustrated Magazine

SEWING MACHINE

This letter from Mrs. Dewberry, who, for selecting the most appropriate name, was awarded the Sewing Machine, explains itself:

SYLACAUGA, ALA., Feb'y 24, 1899.

VICK PUBLISHING CO., Rochester, N. Y.

Dear sirs—Your letter announcing the decision of the judges to be in my favor, was promptly received, and since I have most patiently and anxiously awaited the arrival of the new machine, which came a few days ago. I greatly appreciate the honor conferred upon me by giving the machine the name I selected. I am delighted with its handsome appearance and fine finish, and having had it in operation for some days I am fully prepared to give it the highest recommendation for mechanical excellence, simplicity, durability, ease of management, light running and noiseless motion, which makes it in every respect worthy of success.

May its star never grow dim,

But its par ever be V.I.M.

Very respectfully, MRS. J. R. DEWBERRY.

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